7. Pro Derzhavnyj zemeljnyj kadastr [On the State Land Cadastre] Law of Ukraine of dated 7 July 2011. No. 3613-VI. URL: https://zakon.rada.gov.ua/laws/show/3613-17#Text (in Ukrainian) (accessed 28 July 2022)

8. Pro nacionaljnu infrastrukturu gheoprostorovykh danykh [On the National Infrastructure of Geospatial Data] Law of Ukraine dated 13 April 2020. No. 554-IX URL: https://zakon.rada.gov.ua/laws/show/554-20#Text (in Ukrainian) (accessed 28 July 2022)

9. Konstytucija Ukrajiny [Constitution of Ukraine] dated 28 June 1996. URL: https://zakon.rada.gov.ua/laws/show/254%D0%BA/96-%D0%B2%D1%80#Text (in Ukrainian) (accessed 28 July 2022)

10. Zakon z planuvannja ta prostorovogho rozvytku [On Planning and Spatial Development] Law of Poland dated 27 March 2003. URL: https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20030800717/U/D20030717Lj.pdf (in Poland) (accessed 28 July 2022)

11. Pro zasady polityky rozvytku [On the principles of development policy] Law of Poland dated 6 December 2006. URL: https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20062271658/U/D20061658Lj.pdf (in Poland) (accessed 28 July 2022)

12 Tsvigun I. (2022) Do pytannja pravovogho reghuljuvannja zemeljnykh pravovidnosyn za zakonodavstvom Ukrajiny ta Poljshhi [On the issue of legal regulation of land relations under the laws of Ukraine and Poland]. *The International Scientific Internet Conference with the assistance of the Public Organization «Scientific Community» (Ternopil, Ukrainian) and Wyższej Szkoły Społeczno-Gospodarcza w Przeworsku (Perevorsk, Poland) dated 09-10 June 2022.* pp. 41-44. URL: http://www.lex-line.com.ua/?go=full_article&id=3380 (in Ukrainian and Poland) (accessed 28 July 2022)

13. Vodne parvo [Water law] Law of Poland dated 20 July 2017. URL: https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20210000624 (in Poland) (accessed 28 July 2022)

14 Zakon pro lisy [On forests] Law of Poland dated 28 September 1991. URL: https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20210001275 (in Poland) (accessed 28 July 2022)

15. Pro derzhavnu rejestraciju rechovykh prav na nerukhome majno ta jikh objtjazhenj [On State Registration of Real Property Rights and Encumbrances] Law of Ukraine 1 July 2004. No. 1952-IV. URL: https://zakon.rada.gov.ua/laws/show/1952-15#Text (in Ukrainian) (accessed 28 July 2022)

16. Kulinich P. (2018) Zemeljne rejderstvo jak neghatyvne pravove javyshhe: doktrynaljnyj analiz ta shljakhy podolannja [Land grabbing as a negative legal phenomenon: doctrine analysis and ways of overcoming] *Almanac of law.* Issue 9. pp. 62-67 URL: http://almanahprava.org.ua/files/almana-prava.-vipusk-9-_2018_.pdf (in Ukrainian) (accessed 28 July 2022)

17. Krasnova Yu.A., Bazunko O.A. (2021) Gharantiji realizaciji prava ghromadjan Ukrajiny na sudovyj zakhyst ekologhichnykh prav [Guarantees of realization of the right of citizens of Ukraine to judicial protection of environmental rights] *Private and public law.* No. 1/2021. pp. 28-32. URL: http://pp-law.in.ua/archive/1_2021/7.pdf (in Ukrainian) (accessed 28 July 2022)

PUBLIC CHALLENGES OF DIGITALISATION

Vadym Tsymbal,
Ph.D, Associate Professor at the Department of History
of the Pavlo Tychyna Uman State Pedagogical University (Uman, Cherkasy region, Ukraine)
ORCID ID: 0000-0002-6368-007X
vadym.tsymbal.ua@gmail.com

Liubov Shachkovska,
PhD, Professor at the Department of History
of the Pavlo Tychyna Uman State Pedagogical University (Uman, Cherkasy region, Ukraine)
ORCID ID: 0000-0002-5844-9922
lybasha1984@gmail.com

Abstract. The «information age» has changed profoundly the way we generate, store and exchange information, the way of interaction within and between individuals, institutions, societies and entities. The research aims to define frameworks of collection, usage, storage and distribution of information for better understanding legal and ethical responsibilities of states and citizens concerning application information technologies at social and political relationships. The research methodology comprises comparative case study of technology institutionalisation and its consequences for both developed and developing societies, namely, how the different societies may react to the impact of technology, what could the patterns of further relations between states, citizens and capitalist corporations be, defining prospects of the technocratic techno-science policies, multi-level governance and digital citizenship.

Key words: state security, information security policy, e-governance, smart citizenship, multi-level governance, populism.

Introduction. In the modern democracy, as the sovereign – possessor of the whole scope of power – is regarded to be a community of individuals possessing proper scope of legal capacity, theoretically granted with the equal shares of power embodied in the «voting right». In political sense, such communities compose entities, which are called «states». The equality of shareholders in such entities is ensured by the principle of «one vote per person», and that is one of fundamental and inalienable civil rights. Governance in the democratic societies is envisaged as a mechanism for maintaining the social structure and ensuring fundamental civil rights and interests of citizens. It's natural that within

the evolution of humankind, the mechanisms also evolved as well as political and governance technologies evolved into e-governance and digital governance technologies, exploiting the potential of systems for collecting, transmitting and operating the information. Today, with the use of such tools, humankind has got as close to the implementation of the direct democracy, eluding the middlemen (the representatives) from the policy making, setting the best standards of public services as it had never been before. At the same time, the representatives might easily be substituted with technocrats, while new technologies of governance require more facilities for new political order maintenance, imposing new challenges to state security and sovereignty.

Methods. There is an increasing awareness of the influence of digital governance over the economy, natural and cultural environment and social life, and within this research we try to produce some evidence-based conclusions to improve the understanding technologies place in the modern governance and state security puzzle. Problems of science/technology and society should not be geographically limited, because of their nature; these problems easily transcend regional boundaries, even though there are different patterns of cultural adaptation and diversity (Tsukahara, 2017). Hence, the research methodology comprises comparative case study of technology institutionalisation and its consequences for both developed and developing societies, namely, how the different societies may react to the impact of technology, what could the patterns of further relations between states, citizens and capitalist corporations be, and what are the prospects of the technocratic techno-science policies, multi-level governance and digital citizenship.

Results and Discussion. In the 1990's economic neoliberalism was widely regarded as a remedy for the world's economic problems. The postulate of free movement of capital, manpower, products and ideas became the basis for global ideology. The dynamics of capitalism contributed to the degradation of urban civilisation, which was reflected in structuralist theories in urban sociology developed especially by American academics. They considered urban crisis against the background of the entire political and economic system, social structure and structural changes inherent in capitalist model, such as de-urbanisation of settlement structures and de-concentration of production, uncontrolled and unplanned urban sprawl, commercialisation and ghettoisation or decline of public space. At present, the processuality of decision-making arrangements and empowerment of citizens replace previous institutionalised mechanism unfit to address complex, multidimensional urban issues. This was often described as a «shift from government to governance». The commonly used word 'governance' refers presently «to a new process of governing; or a changed condition or ordered rule; or the new method by which society is governed». (Badach, Dymnicka, 2017) In a very short period of time there appeared a new gap between the developed and developing societies within the dimension of organization of social life. The organizational maturity criterion is especially rooted in the e-government tradition of looking at the e-government growth stages: stovepipe organizations, integrated organizations, nationwide portal, inter-organizational integration and demand-driven, joined-up government. (Giest, 2017)

Hence, the richest perspective is a socio-technical process of governing in which information and communications technologies serve just as a tool to facilitate collaboration between different actors. (Badach, Dymnicka, 2017) Using technologies for policymaking is not new, but the way the potential or actual use of technologies changes some of the theoretical and practical discussions surrounding decision-making is. In this meaning smart governance is not brought down to a technological issue but becomes a matter of developing infrastructure for enhancing knowledge and improvement the understanding of the interactions between society and government.

In A. Datta research, an examination of smart cities in India was conceived as a chance to reframe postcolonial urban theory and its central concerns with the genealogies of power, knowledge and politics in substantially different ways. In 2014, the newly elected ruling party in India announced that they will build 100 smart cities through a national programme to «leapfrog» India towards a digital urban future. Seeking to produce the «smart city» and the «smart citizen» as two sides of this future, the programme was aimed to apply a range of digital technologies from e-governance to smart utility networks to produce ubiquitously networked cities. (Datta, 2018) This experience is very interesting as, since the faith in state is under crisis, it is widely believed that «a more pluralistic pattern of rule», based on processes and interactions between the state and civil society rather than institutions, is a new form of governing to replace representative democracy. The emerging urban movements may become the nucleus of governance transformation, promoting practices from other countries and contributing to the development of civic involvements and consciousness, drawing public attention to many important issues. (Badach, Dymnicka, 2017) And the developing technologies catalyze changes in the way policymaking is being done and the way it affects citizens.

The issue of organizational maturity here lies within the so-called digital culture, which may be defined as the capacity of both individual civil servants as well as the organization as a whole to collect, merge and utilize data and the institutional structure supporting this through training civil servants or open data initiatives. The contemporary smart city takes earlier ideas of a digital or networked city beyond mere connectivity to a new regime of speculative futures that combine big data, algorithmic governance and automated urban management. In this role, smart people should be collaborators and endorsers of the smart city, rather than critical and active citizens. Another way to think about technology and government finds itself within understanding both citizens providing information to government as well as government offering personalized services based on additional data of citizens, the neighbourhood or the community. (Datta, 2018; Giest, 2017) Thus, current process of testing smart cities as the site of democratic participation may provide us with understanding in what capacity the smart citizens will be constructed at the further state-private sector relationships in urban governance.

Some works on common resources shows that multilevel, distributed decision authority is often more effective than top-down approaches at managing resources in complex social-ecological systems. This has spurred a widespread trend in prescribing more inclusive, decentralized decision-making processes. (Manfredo, et al, 2017) In that sense, «multi-level

governance», also referred to as the «governance of governance» or «Meta-governance», does not mean functionalistic managing and regulating multiple processes but involves facilitating and fostering processes of collaborative governance and coordination, setting the scene for self-organisation and emergence of solutions and innovations». It is in fact a set of processes involving governing structures and institutions at different levels in which the scales and sectors of policy making are reworked. (Badach, Dymnicka, 2017) Such new concepts try to grasp the way the public realm is working with big data, which are built on the assumption that data- and technology-driven innovations in government need an infrastructure for creating value from data and are closely linked to the e-government idea of technologies transforming government toward being more responsive and accountable. (Giest, 2017)

In India's case, 80% of its citizens of the experimental cities were outside the digital divide, they needed to be drawn into digital space in order to produce a «user base» for the smart city services; these new digital subjects had to be shown how to perform as «smart citizens» in order to contribute to the «success» of the smart city. (Datta, 2018) The threat of such a low participation rate for the representative democracy, for example, is that staying outside the digital divide leads to low voter participation, declining support for incumbents, fragmentation of the party system, and emergence of single issue and radical parties. Such trends have caused the populist movements at the end of the 20th century, taking multiple forms and not necessarily been represented by only one ideological position. (Manfredo, et al, 2017)

The evolution of broadband networks (vital for e-governance) in Canada offers a window into understanding the interaction between technological change, public policy, and private sector decision processes that shape Internet connectivity. These trends have led to concerns about regulatory barriers to international and domestic competition in the provision of Internet access services. As a result there had increased pressure on sub-national governments in Canada to design and implement decentralized policy solutions to increase the pace of progress in network development. Canada's federalist constitution, that makes the provinces responsible for delivering public goods such as healthcare and education which would benefit from having a high-quality digital infrastructure, increased the impetus for policy decentralization, experimentation, and differentiation. (Rajabiun, Middleton, 2013) Digital culture within public organizations refers to understanding digital governance not only as an IT issue, but as something that requires support from organization-wide structures and capabilities. Specifically, it emphasizes the importance of civil servants and policymakers understanding how to find, analyze and utilize the technology and the institutional structure to support this. (Giest, 2017)

In the governance perspective, which transcends the public and private sectors as well as the civil society, the focus should be on networks rather than hierarchical relations, reinforced by diversified resources, actors and their knowledge and experience. (Badach, Dymnicka, 2017) These theoretical developments closely mimic the discussion in the e-government field among three themes, (1) the improvement and execution of public services linked to new technologies, (2) technologies transforming the way government is organized and (3) technologies boosting values such as transparency and accountability. (Giest, 2017) Most of the people of the IT generation can create a smart city, but not all of them will be interested in continuing its development. The main sectors of a city can be connected throughout the internet and citizens' contribution. It is very important to keep the users engaged. (Zica, et al., 2018)

With the convergence of governance and technology, institutions appear as information centers, i.e. mechanisms of political, economic or social interactions. Strong institutions can keep people of one cultural belief system from associating with people from other cultures, which leads to isolation and reduces assimilation. (Ulloa, et al., 2016) As mentioned above, people need motivation, fun, competition and recognition in their lives, and the community has to be interested and motivated to really participate in the city's life. The observations of the real-world politics also indicate that the negative effects of the dominance of emotions over rational thinking and impartial considerations are strongly embedded in the democratic systems. (Sobkowicz, 2016) Some experimental results confirm that presuppositions instruct the addressee to devote less attention and effort to certain content, because more is not needed for full understanding of the message. Presupposing expressions perform this function, and probably arose in order to fulfil it for those contents that are already in the knowledge of the addressee. (Lombardi Vallauri, 2016)

The mitigating approaches based on providing the voter with better information are largely naive, as they do not take into account the phenomena of emotional biased processing, agenda setting, motivated reasoning, selective exposure and perception – to mention just a few social mechanisms driving the processes of formation of the individual and social opinions. Concerning the latter, it's necessary to match the manipulative role of the technologies, which is broadly exploited in modern world.

In countries with insufficient resources, a media system is incapable of presenting a full range of political and economic interests in the public domain. To prove that, we can refer to the research a national public opinion study conducted by company Saar Poll OÜ at 2014 in Estonia. For instance, the Saar Poll study asked participants who, in their opinion, was responsible for shooting down the Air Malaysia flight over eastern Ukraine. A large share of respondents, regardless of ethnicity, has difficulty forming an opinion based on the information that they had (40 per cent of Estonians and 47 per cent of Russian speakers). Among those respondents with an opinion, a distinct difference was present: Estonian respondents stated that either the Russian government (34 per cent of respondents) and/or the Ukrainian separatists (31 per cent of respondents) were responsible; Russian speaking respondents primarily stated the government of Ukraine was responsible (38 per cent of respondents). (Sobkowicz, 2016)

The very similar was the situation with the distribution of public opinion between the Ukrainian citizens during the Revolution of Dignity and at the beginning of Russian aggression in Donbas. Actually, it's hard to find a state in Europe, not influenced by Russian propaganda, and its' also evident that Central and Eastern European states often fell threats on their Eastern (traditionally, the most Post-Soviet) borders.

From this perspective, internet governance, cyber security, and media policy should not be viewed as separate domains. «Geopolitics of information» will become increasingly necessary in the coming years. Just as networked authoritarianism establishes strategic infrastructures to control the message domestically and intervene in global media systems, liberal democracies need to rethink media and communication infrastructures to ensure they foster pluralist, rights-respecting societies that are resilient to authoritarianism and extremism. In doing so, they should resist the temptation to respond to this threat in ways that will erode democracy even further, such as expanded surveillance and limits on free expression. (Maréchal, 2017) Attention here should be paid not only to the Russian authoritarian state, which is easy to blame; many threats occur under democratic systems − which might actually be very corrupt − a so-called corporate capitalist industrial systems under the protection of the state technocracy. (Tsukahara, 2017)

The role of contagion in the spreading of information and behaviours in (techno-) social networks is now widely studied in computational social science, with applications ranging from public health to national security. Diffusion phenomena in social and techno-social systems have already attracted much attention due to the importance of understanding dynamics such as disease propagation, adoption of behaviours, emergence of consensus and influence, and information spreading. (Mønsted, et al., 2017)

Of course, such mechanisms are already widely used as an essential part of political technologies. In particular, the FpV (political party, supporting their candidate at presidential elections in October 2015 in Argentine) alleged that Cambiemos (FpV's rivals) abused the political affordances of social media, running a Twitter campaign via «50,000» accounts that «weren't real, that were automated and managed by computer programmes, or accounts with false numbers and letters attached to them, that sought to tarnish the [social] networks with false information». Within the further research of the case, T. Filer, and R. Fredheim, concluded that, in fact, both parties drew on automated or partly automated accounts to promote their campaigns on Twitter, synthesizing three types of automation: pushing messages on a mass scale, faking grassroots support, and playing dirty tricks (by smearing the opposing candidate or controlling the space by flooding content). Moreover, both parties' campaigns were found to have used automation principally for amplification – maximizing the diffusion of party content – rather than to muffle the other side. (Filer, Fredheim, 2017)

At a more abstract level, these technologies can be applied not only for election purposes but also through the policy design. This concept is linked to the idea that governments aim to implement goals effectively and efficiently, and connected to that, are interested in utilizing knowledge and experience about policy issues. Thereby, the selection of policy instruments takes place within a larger context that contains institutions, actors and practices and that affect the policy-making process. (Giest, 2017) And here we reach the core of our research, examining the issue of information challenges to state security and sovereignty.

Ronald Deibert and his team at the University of Toronto's Citizen Lab coined the phrase «information controls» to describe the «techniques, practices, regulations or policies that strongly influence the availability of electronic information for social, political, ethical, or economic ends». These include technical means like «filtering, distributed denial of service attacks, electronic surveillance, malware, or other computer-based means of denying, shaping and monitoring information» and policies like «laws, social understandings of 'inappropriate' content, media licensing, content removal, defamation policies, slander laws, secretive sharing of data between public and private bodies, or strategic lawsuit actions». (Maréchal, 2017)

Howlett distinguishes between substantive and procedural informational instruments, which are connected to different aspects of policymaking. Substantive information collection and dissemination tools describe government collecting information to enhance evidence-based policymaking, and public institutions communicating information to citizens through, for example, information campaigns. Procedural information tools describe the activities by government to regulate information based on information legislation for the release of, for example, government data. (Giest, 2017)

Populist contestations of capitalism, including the surveillance capitalism that powers the internet economy, open a door for competing political projects like the Kremlin financial and ideological support to farright parties and movement across the European Union, including Viktor Orbán in Hungary, the Brexit «Leave» campaign, and pro-Russian candidates in Bulgaria and Moldova, and, of course, the Trump phenomenon – itself no stranger to xenophobia and white supremacist themes. (Maréchal, 2017)

Populism frames the leaders as the ultimate expression of the will of the people; the image of mass support is therefore intrinsic to the appearance of legitimate rule or serious opposition. Denunciations claiming crowds are 'bussed in' to inflate the image of popular support regularly accompany protests and rallies.

Unfortunately, the tendencies inherent for countries that fuse electoral democracy and populist leadership embody even the more dangerous threats for civic security. The Islamic State of Iraq and ash-Sham (ISIS) actively uses social media as an essential element of its campaign to motivate support. On Twitter, ISIS' unique ability to leverage unaffiliated sympathizers that simply retweet propaganda has been identified as a primary mechanism in their success in motivating both recruitment and "lone wolf" attacks. (Benigni, et al., 2017)

Powers and Jablonski thus identify two intermediated threats to human wellbeing: information controls and surveillance capitalism. The former represents a threat from the state, while the latter is best understood as a threat from capitalism. Maréchal describes a third threat: information warfare, a threat from external adversaries who strategically use information to achieve geopolitical goals. (Maréchal, 2017)

As we can see, the technology is a double-bladed knife of a modern society – it can lead to decentralization of power and economics as well as become the main facility of authoritarianism. The bottom-up democratic practices, such as referenda or smart citizenship, may produce convergence towards homogeneity of social structure, while top-down infor-

mation dissemination practices, such as propaganda, are rather applied to increase diversity; when democratic processes are common, they are able to neutralize or reverse this propaganda effect. The more an institution affects individuals' lives, the more it controls interactions between people, their traits and values, and how they socially influence each other. One example of a social process that has yielded valuable insights is homophily, the principle of «like attracts like»: the higher the similarity between two individuals, the more likely they are to influence each other. (Ulloa, et al, 2016) Hence, there's still a huge area for further research of community-building and peace-building theories which would encourage agents of social action to «like» active participation, commonwealth and respect.

Conclusion. New forms of control over the social behaviour and political mechanisms appeared with the emergence of mass media, and the further endeavours on elaborating new tools and techniques will be undertaken to retain control over images, thoughts, ideologies by means of new digital infrastructure. Currently, the political system of the society is being upgraded not only by means of technologies but also as the technology itself, bringing digital dimension into the essence of political and legal relationships. The only fact of democratic institutions existence does not ensure protection of human rights, people's communities' resilience and mutual commonwealth. The information age unfolds a range of new factors which will explicitly or tacitly change this world. Such technologies will definitely bring new challenges to state security and sovereignty and will probably challenge the very concept of the state as such.

References:
1. Badach, J., Dymnicka, M. (2017) Concept of 'Good Urban Governance' and Its Application in Sustainable Urban Planning. IOP Conference Series: Materials Science and Engineering, 245 (8)
2. Benigni, M. C., Joseph, K., Carley, K. M. (2017) Online extremism and the communities that sustain it: Detecting the ISIS supporting community on Twitter. *PLoS ONE*, 12 (12)
3. Chin, Y. C., Li, K. (2021, October). Sovereignty in the Cyberspace: Contestation of Concepts and Policies. Paper presented at AoIR 2021: The 22nd Annual Conference of the Association of Internet Researchers. Virtual Event: AoIR. Retrieved from http://spir.aoir.org.
4. Datta, A. The digital turn in postcolonial urbanism: Smart citizenship in the making of India's 100 smart cities (2018) Transactions of the Institute of British Geographers, . Article in Press.
5. Filer, T., Fredheim, R. (2017) Popular with the Robots: Accusation and Automation in the Argentine Presidential Elections, 2015. *International Journal of Politics, Culture and Society*, 30 (3), pp. 259-274.
6. Giest, S. (2017) Big data for policymaking: fad or fasttrack? *Policy Sciences*, 50 (3), pp. 367-382.
7. Lombardi Vallauri, E. (2016) The "exaptation" of linguistic implicit strategies SpringerPlus, 5 (1)
8. Manfredo, M. J., Teel, T. L., Sullivan, L., Dietsch, A. M. (2017) Values, trust, and cultural backlash in conservation governance: The case of wildlife management in the United States. *Biological Conservation*, 214, pp. 303-311.
9. Maréchal, N. (2017) Networked authoritarianism and the geopolitics of information: Understanding Russian internet policy. Media and Communication, 5 (1), pp. 29-41
10. Mønsted, B., Sapieżyński, P., Ferrara, E., Lehmann, S. (2017) Evidence of complex contagion of information in social media: An experiment using Twitter bots. *PLoS ONE*, 12 (9)
11. Rajabiun, R., Middleton, C. A. (2013) Multilevel governance and broadband infrastructure development: Evidence from Canada. Telecommunications Policy, 37 (9), pp. 702-714
12. Sobkowicz, P. (2016) Quantitative agent based model of opinion dynamics: Polish elections of 2015. PLoS ONE, 11 (5)
13. Tsukahara, T. (2017) Commentary: New Currents in Science: The Challenge of Quality, examining the discrepancies and incongruities between Japanese techno-scientific policy and the citizens' science movement in post-3/11 Japan. *Futures*, 91, pp. 84-89.
14. Ulloa, R., Kacperski, C., Sancho, F. (2016) Institutions and cultural diversity: Effects of democratic and propaganda processes on local convergence and global diversity. PLoS ONE, 11 (4)
15. Zica, M. R., Ionica, A. C., Leba, M. (2018) Gamification in the context of smart cities. IOP Conference Series: Materials Science and Engineering, 294 (1)
16. Zwilling M., Klien G., Lesjak D. et al (2020) Cyber Security Awareness, Knowledge and Behaviour: A Comparative Study, *Journal of Computer Information Systems*, DOI: 10.1080/08874417.2020.1712269https://www.researchgate.net/profile/Fatih-Cetin-3/publication/339273589_Cyber_Security_Awareness_Knowledge_and_Behavior_A_Comparative_Study/links/5e46ef2ba6fdccd965a5c9be/Cyber-Security-Awareness-Knowledge-and-Behavior-A-Comparative-Study.pdf Accessed 17th March 2021.